



Roanoke Bar Division
P.O. Box 13948
Roanoke, Virginia 24038-3948
(540) 342-1831
(800) 765-6567 toll-free
(540) 342-9437 fax
www.steeldynamics.com



April 5, 2010

Division Director
Department of Environmental Quality
West Central Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019-2738

Re: Amended Permit Application
VPDES Permit No. VA0001589

Dear Sir:

Steel Dynamics Roanoke Bar Division has received the necessary analytical information to complete the application for a VPDES Permit. In addition, a completed Attachment A is included as a part of this package.

The application incorporates dramatic changes to the facility's topography, a large stormwater management basin and the construction of thousands of feet of conveyance systems to include three additional stormwater discharge points. Although the project is nearly complete it still remains under the authority of the Virginia Department of Recreation and Conservation via The City of Roanoke.

The VPDES permit is necessary for Steel Dynamics to remain in operation. Steel Dynamics remains committed to providing the necessary resources to assure compliance with the Clean Water Act regulations and the protection of the surface waters of the Commonwealth.

I am available for your questions and comments at (540) 982-7240.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Cary Lester Jr.'.

J. Cary Lester Jr. CHMM
Director, Environmental Affairs

FORM <div style="font-size: 2em; font-weight: bold; margin: 10px 0;">1</div> GENERAL	 U.S. ENVIRONMENTAL PROTECTION AGENCY GENERAL INFORMATION <i>Consolidated Permits Program</i> <i>(Read the "General Instructions" before starting.)</i>	I. EPA I.D. NUMBER <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">S</td> <td style="width:70%;"></td> <td style="width:10%;">T/A</td> <td style="width:10%;">C</td> </tr> <tr> <td>F</td> <td></td> <td></td> <td>D</td> </tr> </table>	S		T/A	C	F			D																																								
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II. POLLUTANT CHARACTERISTICS INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.		GENERAL INSTRUCTIONS If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B) which must be completed regardless. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorization under which this data is collected.																																																
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VII. SIC CODES (4-digit, in order of priority)

A. FIRST				B. SECOND			
C	7	15	16	C	7	15	16
3312	(specify)			3312	(specify)		
Billets, steel				Bars, steel made in steel works or hot rolling mills			
C. THIRD				D. FOURTH			
C	7	15	16	C	7	15	16
	(specify)				(specify)		

VIII. OPERATOR INFORMATION

A. NAME				B. Is the name listed in Item VIII-A also the owner?			
C	8	18	19	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
Steel Dynamics, Roanoke Bar Division							
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other," specify.)				D. PHONE (area code & no.)			
F = FEDERAL	M = PUBLIC (other than federal or state)	P	(specify)	C	15	16	18
S = STATE	O = OTHER (specify)			540	342	1831	
P = PRIVATE		56					

E. STREET OR PO BOX				F. CITY OR TOWN				G. STATE		H. ZIP CODE		IX. INDIAN LAND	
P.O. Box 13948				Roanoke				VA		24038		Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)				D. PSD (Air Emissions from Proposed Sources)			
C	9	15	16	C	9	15	16
VA 0001589				VA200131			
B. UIC (Underground Injection of Fluids)				E. OTHER (specify)			
C	9	15	16	(Specify)			
C. RCRA (Hazardous Wastes)				E. OTHER (specify)			
C	9	15	16	(Specify)			
VAD003122553							

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Refining of ferrous and non-ferrous metals from scrap into steel billets to produce hot rolled bars, bar shapes and structural shapes

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)		B. SIGNATURE		C. DATE SIGNED	
J. Cary Lester, Dir. Environmental Affairs				6/30/2019	

COMMENTS FOR OFFICIAL USE ONLY

C	15	16	18

EPA I.D. NUMBER (copy from Item 1 of Form 1)

VA0001589

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

Please print or type in the unshaded areas only.

FORM
2C
NPDESU.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
005	37	16	25	79	59	49	Peters Creek

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
005	(1) Industrial Wastewater Treatment	68,800 gpd	Equalization	NA	
			Chemical Precipitation	2-C	
			Coagulation	2-D	
			Flocculation	1-G	
			Sedimentation	1-U	
	Water Cooled Duct System		Rapid Sand Filtration	1-R	
			Pressure Filtration	5-R	
	(2) Rolling Mill Flume Flush Cooling	102,300 gpd	Grit Removal	1-M	
	Water Recycle System (RMRS)		Sedimentation	1-U	
			Treatment Facility	(1)	
	(3) #3 Caster Spray Water System	75,000 gpd	Sedimentation	1-U	
			RMRS	(2)	
	(4) #4 Caster Spray Water System	0 gpd	Grit Removal	1-M	
			RMRS	(2)	
	LMS/ #3 Caster/ #4 Caster Cooling	10,000 gpd	RMRS	(2)	
	#5 Furnace Machine Cooling System	68,250 gpd	#3 Caster Cooling Water System	(3)	
	Water Cooled Duct System	10,000 gpd	#3 Caster Cooling Water System	(3)	
	#3 Caster Mold Cooling System	23,100 gpd	#3 Caster Cooling Water System	(3)	
	#4 Caster Mold Cooling System	0 gpd	#4 Caster Cooling Water System	(3)	
	Rolling Mill Cooling System	12,800 gpd	RMRS	(2)	
	Rolling Mill Heat Exchanger	4,000 gpd	RMRS	(2)	
	Man Cooling Units 1 & 2	Negligible	RMRS	(2)	

OFFICIAL USE ONLY (effluent guidelines sub-categories)

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal? <input type="checkbox"/> YES (complete the following table) <input checked="" type="checkbox"/> NO (go to Section III)								
1. OUTFALL NUMBER (list)	2. OPERATION(S) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				C. DURATION (in days)
		a. DAYS PER WEEK (specify average)	b. MONTHS PER YEAR (specify average)	a. FLOW RATE (in mgd)		B. TOTAL VOLUME (specify with units)		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	

III. PRODUCTION			
A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility? <input checked="" type="checkbox"/> YES (complete Item III-B) <input type="checkbox"/> NO (go to Section IV)			
B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)? <input checked="" type="checkbox"/> YES (complete Item III-C) <input type="checkbox"/> NO (go to Section IV)			
C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.			
1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS (list outfall numbers)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	
1,227,000 (Avg. Daily Production)	Kilograms/Day	Continuous Casting	005
2,177,000 (Max. Daily Production)	Kilograms/Day	Continuous Casting	005

IV. IMPROVEMENTS					
A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operations of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions. <input type="checkbox"/> YES (complete the following table) <input checked="" type="checkbox"/> NO (go to Item IV-B)					
1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. <input type="checkbox"/> MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

CONTINUED FROM PAGE 2

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided.

NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
None of the the listed substances are present in raw materilas, none suspected based on manufacturing category			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☒ YES (list all such pollutants below)☐ NO (go to Item VI-B)

Item V-C Pollutants were not identified in the current Material Safety Data Sheets, but may be presevnt at trace levels in the following products

Citgo Glycol FR-40XD
 Sodium Hypochlorite Solution 12.5%
 Ferrous Chloride
 Sodium Hydroxide 50%
 Nalco 3DT177 Corrosion Inhibitor
 Nalco 3DT179 Corrosion Inhibitor
 Nalco 3DT187 Corrosion & Scale Inhibitor
 Nalco 3DT189 Corrosion & Scale Inhibitor
 Nalco 3DT104 Scale Inhibitor
 Nalco 3DT120 Scale Inhibitor

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ YES (identify the test(s) and describe their purposes below)

☐ NO (go to Section VIII)

5/2007 - 7 Day Chronic Flathead Minnow (Pimephales promelas), Survival & Growth Test
3-Brood Chronic Ceriodaphnia, Survival & Reproduction Test

6/2007 - 7 Day Chronic Flathead Minnow (Pimephales promelas), Survival & Growth Test
3-Brood Chronic Ceriodaphnia, Survival & Reproduction Test

5/2008 - 7 Day Chronic Flathead Minnow (Pimephales promelas), Survival & Growth Test
3-Brood Chronic Ceriodaphnia, Survival & Reproduction Test

9/2009 - 7 Day Chronic Flathead Minnow (Pimephales promelas), Survival & Growth Test
3-Brood Chronic Ceriodaphnia, Survival & Reproduction Test

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?


☒ YES (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

☐ NO (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
ProChem Analytical, Inc.	5111 Enterprise Blvd Elliston, VA	540.265.7211	Part A Pollutants
Research Environmental & Industrial Consultants, Inc (REIC)	225 Industrial Park Rd Beaver, WV 25813	340.255.2500	Part B Pollutants Part C Pollutants

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (type or print)	B. PHONE NO. (area code & no.)
CART LESTER DIRECTOR, ENVIRONMENTAL AFFAIRS	540.342.1831
C. SIGNATURE	D. DATE SIGNED
	6/30/2010

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages.
SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1)
VAD0001589

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)	OUTFALL NO. 005
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PART A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT							3. UNITS (specify if blank)		4. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
	(1)	(2)	(1)	(2)	(1)	(2)				(1)	(2)	
	CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS				CONCENTRATION	MASS	
a. Biochemical Oxygen Demand (BOD)	5000	1.617	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
b. Chemical Oxygen Demand (COD)	73000	23.613	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
c. Total Organic Carbon (TOC)	13800	6.973	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
d. Total Suspended Solids (TSS)	16000	8.085	16000	5.646	2769	0.742	26	µg/L	kg/day			
e. Ammonia (as N)	140	0.071	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
f. Flow	VALUE 0.1335		VALUE 0.09323		VALUE 0.07078		1825	MGD	MGD	VALUE		
g. Temperature (winter)	VALUE 26.9		VALUE 23.5		VALUE 20.8		6	°C		VALUE		
h. Temperature (summer)	VALUE 29.9		VALUE 29.7		VALUE 28.2		6	°C		VALUE		
i. pH	MINIMUM 6.11	MAXIMUM 8.96	MINIMUM 6.11	MAXIMUM 8.96			cont. ly	STANDARD UNITS				

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1)	(2)	(1)	(2)	(1)	(2)				(1)	(2)	
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS				CONCENTRATION	MASS	
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)		X												
f. Nitrate-Nitrite (as N)	X		<100	<0.051	N/A	N/A	N/A	N/A	1	µg/L	kg/da			

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)	X		140	0.071	N/A	N/A	N/A	N/A	1	µg/L	kg/da			
h. Oil and Grease	X		642000	324.4	N/A	N/A	25215	6.755	26	µg/L	kg/da			
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO ₄) (14808-79-8)		X												
l. Sulfide (as S)		X												
m. Sulfite (as SO ₃) (14285-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)	X		<13	<0.0066	N/A	N/A	N/A	N/A	1	µg/L	kg/da			
p. Barium, Total (7440-39-3)	X		28400	14.350	N/A	N/A	N/A	N/A	1	µg/L	kg/da			
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X		418	0.211	N/A	N/A	N/A	N/A	1	µg/L	kg/da			
t. Magnesium, Total (7439-95-4)	X		48100	24.305	N/A	N/A	N/A	N/A	1	µg/L	kg/da			
u. Molybdenum, Total (7439-98-7)	X		138	0.070	N/A	N/A	N/A	N/A	1	µg/L	kg/da			
v. Manganese, Total (7439-96-5)	X		347	0.175	N/A	N/A	N/A	N/A	1	µg/L	kg/da			
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
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CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)		X		32.5	0.016	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
2M. Arsenic, Total (7440-38-2)		X		<5.0	<0.003	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
3M. Beryllium, Total (7440-41-7)		X		<5.0	<0.002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
4M. Cadmium, Total (7440-43-9)		X		<0.2	<0.000	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
5M. Chromium, Total (7440-47-3)		X		<7.0	<0.003	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
6M. Copper, Total (7440-50-8)	X			2.5	0.0013	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
7M. Lead, Total (7439-92-1)	X			<3.0	<0.001	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
8M. Mercury, Total (7439-97-6)		X		<0.1	<0.000	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
9M. Nickel, Total (7440-02-0)		X		3.1	0.0016	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
10M. Selenium, Total (7782-49-2)		X		<7.0	<0.003	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
11M. Silver, Total (7440-22-4)		X		<1.0	<0.000	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
12M. Thallium, Total (7440-28-0)		X		<7.0	<0.003	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
13M. Zinc, Total (7440-66-6)	X			7.6	0.0038	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
14M. Cyanide, Total (57-12-5)	X			<4.0	<0.002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
15M. Phenols, Total	X			<2.1	<0.001	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT								4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS		
GC/MS FRACTION – VOLATILE COMPOUNDS																
1V. Acrolein (107-02-8)			X													
2V. Acrylonitrile (107-13-1)			X													
3V. Benzene (71-43-2)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
4V. Bis (Chloromethyl) Ether (542-88-1)				DELISTED												
5V. Bromoform (75-25-2)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
6V. Carbon Tetrachloride (56-23-5)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
7V. Chlorobenzene (108-90-7)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
8V. Chlorodibromomethane (124-48-1)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
9V. Chloroethane (75-00-3)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			< 25	0.013	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
11V. Chloroform (67-66-3)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
12V. Dichlorobromomethane (75-27-4)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
13V. Dichlorodifluoromethane (75-71-8)				DELISTED												
14V. 1,1-Dichloroethane (75-34-3)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
15V. 1,2-Dichloroethane (107-06-2)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
16V. 1,1-Dichloroethylene (75-35-4)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
17V. 1,2-Dichloropropane (78-87-5)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
18V. 1,3-Dichloropropylene (542-75-6)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
19V. Ethylbenzene (100-41-4)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
20V. Methyl Bromide (74-83-9)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				
21V. Methyl Chloride (74-87-3)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day				

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride (75-09-2)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
24V. Tetrachloroethylene (127-18-4)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
25V. Toluene (108-88-3)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
27V. 1,1,1-Trichloroethane (71-55-6)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
28V. 1,1,2-Trichloroethane (79-00-5)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
29V. Trichloroethylene (79-01-6)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
30V. Trichlorofluoromethane (75-69-4)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
31V. Vinyl Chloride (75-01-4)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			<10.0	<0.005						µg/L	kg/day			
2A. 2,4-Dichlorophenol (120-83-2)	X			<10.0	<0.005						µg/L	kg/day			
3A. 2,4-Dimethylphenol (105-67-9)	X			<10.0	<0.005						µg/L	kg/day			
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			<10.0	<0.005						µg/L	kg/day			
5A. 2,4-Dinitrophenol (51-28-5)	X			<10.0	<0.005						µg/L	kg/day			
6A. 2-Nitrophenol (88-75-5)	X			<10.0	<0.005						µg/L	kg/day			
7A. 4-Nitrophenol (100-02-7)	X			<10.0	<0.005						µg/L	kg/day			
8A. P-Chloro-M-Cresol (59-50-7)	X			<10.0	<0.005						µg/L	kg/day			
9A. Pentachlorophenol (87-86-5)	X			<10.0	<0.005						µg/L	kg/day			
10A. Phenol (108-95-2)	X			<10.0	<0.005						µg/L	kg/day			
11A. 2,4,6-Trichlorophenol (88-05-2)	X			<10.0	<0.005						µg/L	kg/day			

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X														
2B. Acenaphthylene (208-96-8)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
3B. Anthracene (120-12-7)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
4B. Benzidine (92-87-5)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
5B. Benzo (a) Anthracene (56-55-3)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
6B. Benzo (a) Pyrene (50-32-8)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
7B. 3,4-Benzo- fluoranthene (205-99-2)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
8B. Benzo (ghi) Perylene (191-24-2)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
9B. Benzo (k) Fluoranthene (207-08-9)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
10B. Bis (2-Chloro- ethoxy) Methane (111-91-1)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
11B. Bis (2-Chloro- ethyl) Ether (111-44-4)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
12B. Bis (2- Chloroisopropyl) Ether (102-80-1)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
13B. Bis (2-Ethyl- hexyl) Phthalate (117-81-7)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
15B. Butyl Benzyl Phthalate (85-68-7)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
16B. 2-Chloro- naphthalene (91-58-7)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
17B. 4-Chloro- phenyl Phenyl Ether (7005-72-3)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
18B. Chrysene (218-01-9)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
20B. 1,2-Dichloro- benzene (95-50-1)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
21B. 1,3-Di-chloro- benzene (541-73-1)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT								4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS		
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)																
22B. 1,4-Dichlorobenzene (106-46-7)	X			< 5.0	< .002	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
23B. 3,3-Dichlorobenzidine (91-94-1)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
24B. Diethyl Phthalate (84-66-2)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
25B. Dimethyl Phthalate (131-11-3)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
26B. Di-N-Butyl Phthalate (84-74-2)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
27B. 2,4-Dinitrotoluene (121-14-2)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
28B. 2,6-Dinitrotoluene (606-20-2)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
29B. Di-N-Octyl Phthalate (117-84-0)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
31B. Fluoranthene (206-44-0)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
32B. Fluorene (86-73-7)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
33B. Hexachlorobenzene (118-74-1)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
34B. Hexachlorobutadiene (87-68-3)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
35B. Hexachlorocyclopentadiene (77-47-4)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
36B Hexachloroethane (67-72-1)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
38B. Isophorone (78-59-1)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
39B. Naphthalene (91-20-3)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
40B. Nitrobenzene (98-95-3)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
41B. N-Nitrosodimethylamine (62-75-9)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day	N/A	N/A	N/A	

CONTINUED FROM THE FRONT

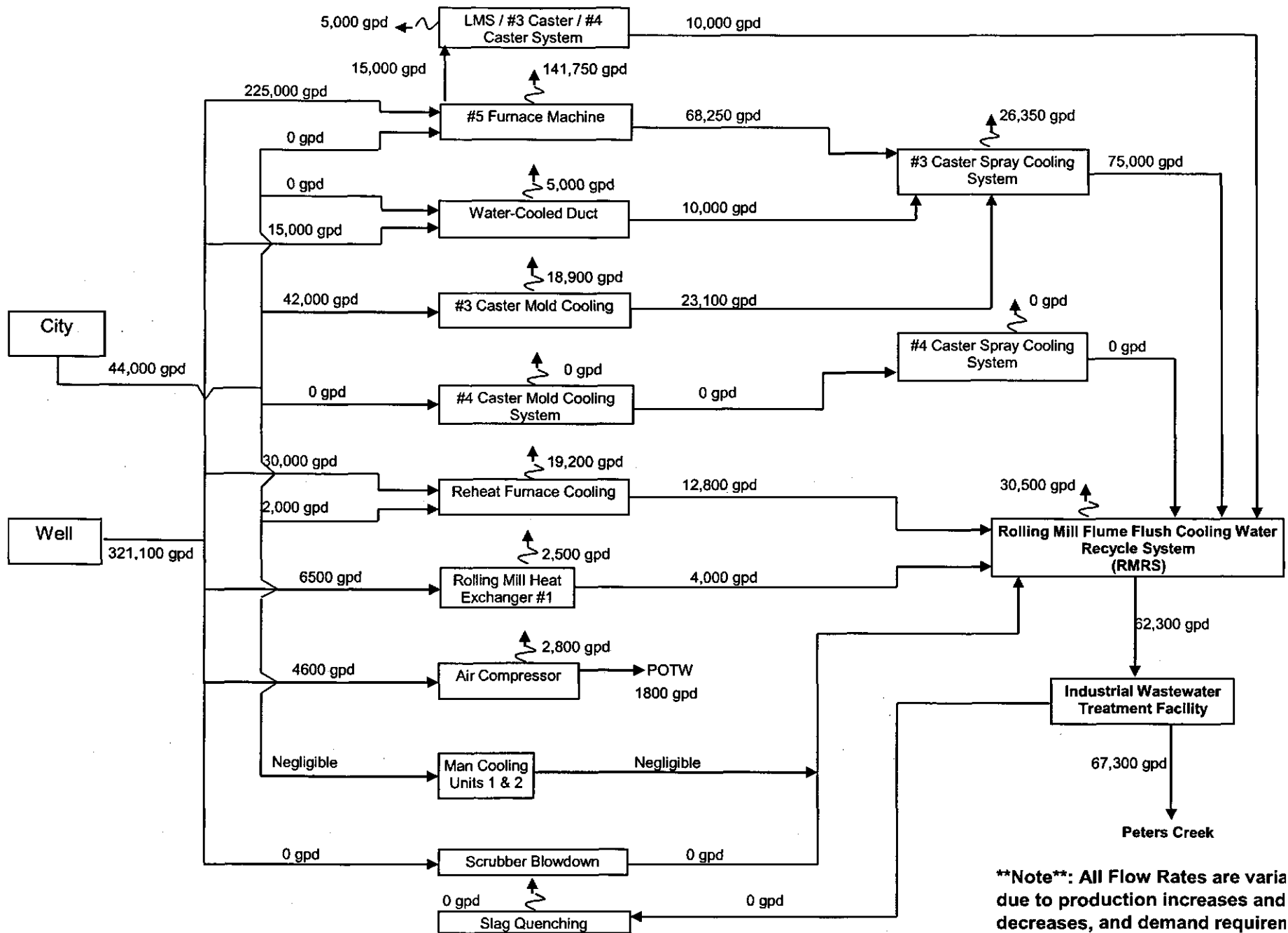
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitro- sodiphenylamine (86-30-6)	X		X	<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
44B. Phenanthrene (85-01-8)	X		X	<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
45B. Pyrene (129-00-0)	X		X	<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
46B. 1,2,4-Tri- chlorobenzene (120-82-1)	X		X	<10.0	<0.005	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
2P. α-BHC (319-84-6)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
3P. β-BHC (319-85-7)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
4P. γ-BHC (58-89-9)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
5P. δ-BHC (319-86-8)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
6P. Chlordane (57-74-9)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
7P. 4,4'-DDT (50-29-3)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
8P. 4,4'-DDE (72-55-9)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
9P. 4,4'-DDD (72-54-8)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
10P. Dieldrin (60-57-1)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
11P. α-Endosulfan (115-29-7)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
12P. β-Endosulfan (115-29-7)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
13P. Endosulfan Sulfate (1031-07-8)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
14P. Endrin (72-20-8)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
15P. Endrin Aldehyde (7421-93-4)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			
16P. Heptachlor (76-44-8)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	1	µg/L	kg/day			

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
VA0001589	005

CONTINUED FROM PAGE V-8

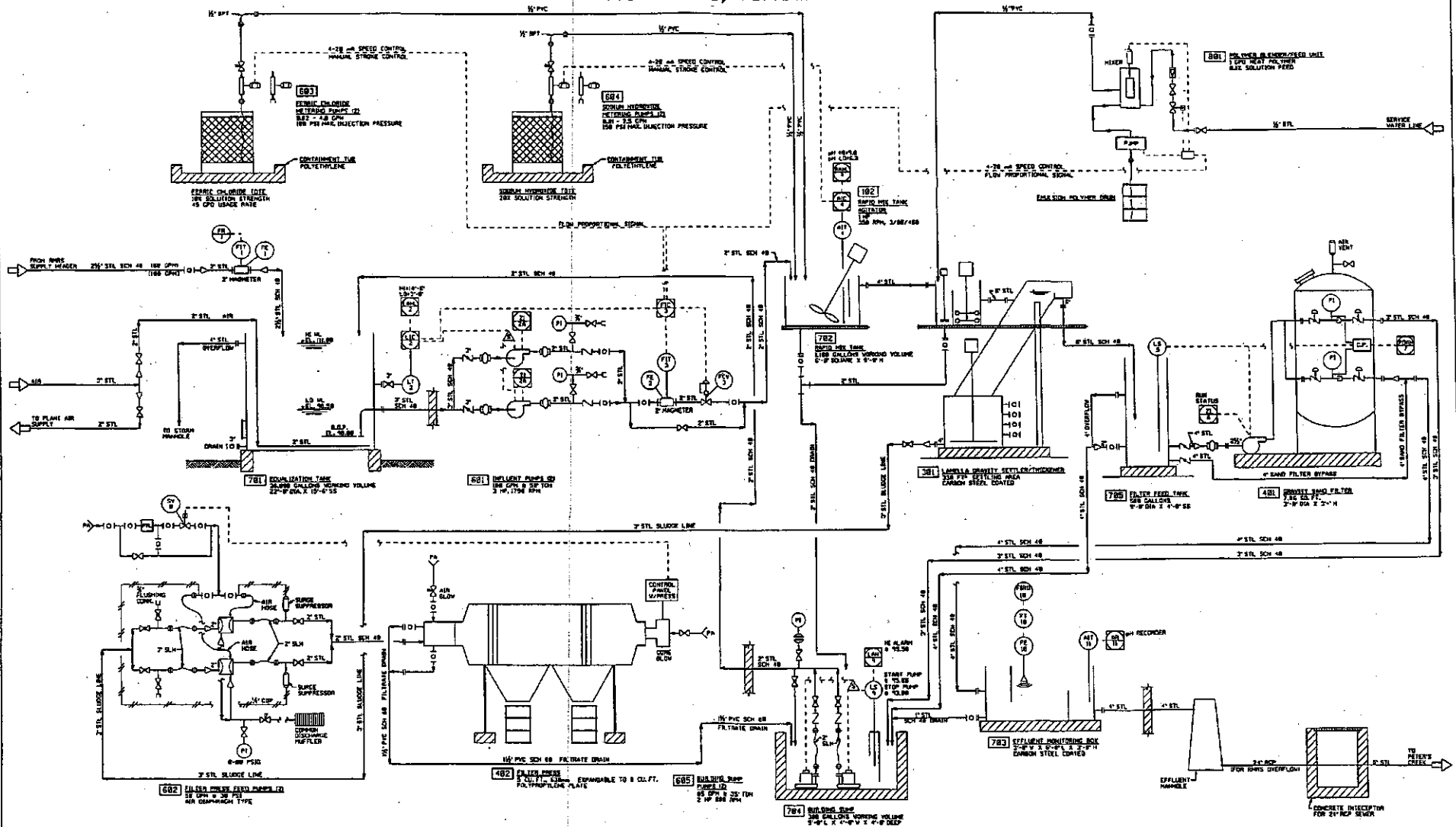
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT								4. UNITS			5. INTAKE (optional)			
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES			
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS				
GC/MS FRACTION – PESTICIDES (continued)																		
17P. Heptachlor Epoxide (1024-57-3)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	N/A	µg/L	kg/day						
18P. PCB-1242 (53469-21-9)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	N/A	µg/L	kg/day						
19P. PCB-1254 (11097-69-1)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	N/A	µg/L	kg/day						
20P. PCB-1221 (11104-28-2)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	N/A	µg/L	kg/day						
21P. PCB-1232 (11141-16-5)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	N/A	µg/L	kg/day						
22P. PCB-1248 (12672-29-6)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	N/A	µg/L	kg/day						
23P. PCB-1260 (11096-82-5)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	N/A	µg/L	kg/day						
24P. PCB-1016 (12674-11-2)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	N/A	µg/L	kg/day						
25P. Toxaphene (8001-35-2)	X		X	<0.5	<.0002	N/A	N/A	N/A	N/A	N/A	µg/L	kg/day						

Steel Dynamics, Roanoke Bar Division Process Water Flow Diagram



****Note**:** All Flow Rates are variable due to production increases and decreases, and demand requires for the various systems.

ROANOKE ELECTRIC STEEL ROANOKE, VIRGINIA



PROCESS FLOW DIAGRAM
EXHIBIT 1

May. 16, 1997 / 08:30

g:\project\461504\o&m\exh-1.o&m May. 16, 1997 08:31:00

461504\O&M\EXH-1.O&M

FACILITY NAME: Roanoke Electric Steel Corp. D/B/A Steel Dynamics Roanoke Bar
 ADDRESS: P O Box 13948
 Roanoke, VA 24038-3948

Permit No. VA0001589
 Attachment A
 Page 1 of 6

DEPARTMENT OF ENVIRONMENTAL QUALITY
 WATER QUALITY MONITORING

OUTFALL NO. 005

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY ⁽³⁾
DISSOLVED METALS						
7440-36-0	Antimony	(4)	2	32.5	G	1/5 YR
7440-43-9	Cadmium	(4)	0.3	<0.3	G	1/5 YR
16065-83-1	Chromium III ⁽⁹⁾	(4)	0.5	< 2	G	1/5 YR
18540-29-9	Chromium VI ⁽⁹⁾	(4)	0.5	< 5	G	1/5 YR
7440-50-8	Copper	(4)	0.5	2.5	G	1/5 YR
7439-92-1	Lead	(4)	0.5	< 3	G	1/5 YR
7439-97-6	Mercury	(4)	1.0	< 1	G	1/5 YR
7440-02-0	Nickel	(4)	0.5	3.1	G	1/5 YR
7782-49-2	Selenium	(4)	2.0	< 7	G	1/5 YR
7440-22-4	Silver	(4)	0.2	< 1	G	1/5 YR
7440-28-0	Thallium	(5)	(6)	< 7	G	1/5 YR
7440-66-6	Zinc	(4)	2.0	7.6	G	1/5 YR
PESTICIDES/PCB'S						
309-00-2	Aldrin	608	0.05	< 0.05	G or C	1/5 YR
57-74-9	Chlordane	608	0.2	< 0.2	G or C	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	(6)	< 10	G or C	1/5 YR
72-54-8	DDD	608	0.1	< 0.1	G or C	1/5 YR
72-55-9	DDE	608	0.1	< 0.1	G or C	1/5 YR
50-29-3	DDT	608	0.1	< 0.1	G or C	1/5 YR
8065-48-3	Demeton	(5)	(6)	< 10	G or C	1/5 YR
60-57-1	Dieldrin	608	0.1	< 0.1	G or C	1/5 YR
959-98-8	Alpha-Endosulfan	608	0.1	< 0.1	G or C	1/5 YR
33213-65-9	Beta-Endosulfan	608	0.1	< 0.1	G or C	1/5 YR
1031-07-8	Endosulfan Sulfate	608	0.1	< 0.1	G or C	1/5 YR
72-20-8	Endrin	608	0.1	< 0.1	G or C	1/5 YR
7421-93-4	Endrin Aldehyde	(5)	(6)	< 0.1	G or C	1/5 YR
86-50-0	Guthion	622	(6)	< 10	G or C	1/5 YR
76-44-8	Heptachlor	608	0.05	< 0.05	G or C	1/5 YR

FACILITY NAME: Roanoke Electric Steel Corp. D/B/A Steel Dynamics Roanoke Bar
 ADDRESS: P O Box 13948
 Roanoke, VA 24038-3948

Permit No. VA0001589
 Attachment A
 Page 2 of 6

DEPARTMENT OF ENVIRONMENTAL QUALITY
 WATER QUALITY MONITORING

OUTFALL NO. 005

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY ⁽³⁾
1024-57-3	Heptachlor Epoxide	(5)	(6)	< 0.512	G or C	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608	(6)	< 0.512	G or C	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608	(6)	< 0.512	G or C	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC or Lindane	608	(6)	< 0.512	G or C	1/5 YR
143-50-0	Kepone	(10)	(6)	< 10.0	G or C	1/5 YR
121-75-5	Malathion	(5)	(6)	< 10.0	G or C	1/5 YR
72-43-5	Methoxychlor	(5)	(6)	< 10.0	G or C	1/5 YR
2385-85-5	Mirex	(5)	(6)	< 10.0	G or C	1/5 YR
56-38-2	Parathion	(5)	(6)	< 10.0	G or C	1/5 YR
11096-82-5	PCB 1260	608	1.0	< 0.512	G or C	1/5 YR
11097-69-1	PCB 1254	608	1.0	< 0.512	G or C	1/5 YR
12672-29-6	PCB 1248	608	1.0	< 0.512	G or C	1/5 YR
53469-21-9	PCB 1242	608	1.0	< 0.512	G or C	1/5 YR
11141-16-5	PCB 1232	608	1.0	< 0.512	G or C	1/5 YR
11104-28-2	PCB 1221	608	1.0	< 0.512	G or C	1/5 YR
12674-11-2	PCB 1016	608	1.0	< 0.512	G or C	1/5 YR
1336-36-3	PCB Total	608	1.0	< 0.512	G or C	1/5 YR
8001-35-2	Toxaphene	608	5.0	< 5.0	G or C	1/5 YR
60-10-5	Tributyltin ⁽⁶⁾	NBSR 85-3295	(6)	< 10.0	G or C	1/5 YR
BASE NEUTRAL EXTRACTABLES						
83-32-9	Acenaphthene	625	10.0	< 10.0	G or C	1/5 YR
120-12-7	Anthracene	625	10.0	< 10.0	G or C	1/5 YR
92-87-5	Benzidine	(5)	(6)	< 10.0	G or C	1/5 YR
56-55-3	Benzo (a) anthracene	625	10.0	< 10.0	G or C	1/5 YR
205-99-2	Benzo (b) fluoranthene	625	10.0	< 10.0	G or C	1/5 YR
207-08-9	Benzo (k) fluoranthene	625	10.0	< 10.0	G or C	1/5 YR
50-32-8	Benzo (a) pyrene	625	10.0	< 10.0	G or C	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	(5)	(6)	< 10.0	G or C	1/5 YR
39638-32-9	Bis 2-Chloroisopropyl Ether	(5)	(6)	< 10.0	G or C	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	< 10.0	G or C	1/5 YR

DEPARTMENT OF ENVIRONMENTAL QUALITY
 WATER QUALITY MONITORING

OUTFALL NO. 005

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY ⁽³⁾
91-58-7	2-Chloronaphthalene	(5)	(6)	< 10.0	G or C	1/5 YR
218-01-9	Chrysene	625	10.0	< 10.0	G or C	1/5 YR
53-70-3	Dibenz(a,h)anthracene	625	20.0	< 10.0	G or C	1/5 YR
84-74-2	Dibutyl phthalate (synonym = Di-n-Butyl Phthalate)	625	10.0	< 10.0	G or C	1/5 YR
95-50-1	1,2-Dichlorobenzene	625	10.0	< 5	G or C	1/5 YR
541-73-1	1,3-Dichlorobenzene	625	10.0	< 5	G or C	1/5 YR
106-46-7	1,4-Dichlorobenzene	625	10.0	< 5	G or C	1/5 YR
91-94-1	3,3-Dichlorobenzidine	(5)	(6)	< 10	G or C	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	< 10	G or C	1/5 YR
117-81-7	Di-2-Ethylhexyl Phthalate	625	10.0	< 10	G or C	1/5 YR
131-11-3	Dimethyl phthalate	(5)	(6)	< 10	G or C	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	< 10	G or C	1/5 YR
122-66-7	1,2-Diphenylhydrazine	(5)	(6)	< 10	G or C	1/5 YR
206-44-0	Fluoranthene	625	10.0	< 10	G or C	1/5 YR
86-73-7	Fluorene	625	10.0	< 10	G or C	1/5 YR
118-74-1	Hexachlorobenzene	(5)	(6)	< 10	G or C	1/5 YR
87-68-3	Hexachlorobutadiene	(5)	(6)	< 10	G or C	1/5 YR
77-47-4	Hexachlorocyclopentadiene	(5)	(6)	< 10	G or C	1/5 YR
67-72-1	Hexachloroethane	(5)	(6)	< 10	G or C	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	625	20.0	< 10	G or C	1/5 YR
78-59-1	Isophorone	625	10.0	< 10	G or C	1/5 YR
98-95-3	Nitrobenzene	625	10.0	< 10	G or C	1/5 YR
62-75-9	N-Nitrosodimethylamine	(5)	(6)	< 10	G or C	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	(5)	(6)	< 10	G or C	1/5 YR
86-30-6	N-Nitrosodiphenylamine	(5)	(6)	< 10	G or C	1/5 YR
129-00-0	Pyrene	625	10.0	< 10	G or C	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	< 10	G or C	1/5 YR
VOLATILES						
107-02-8	Acrolein	(5)	(6)	< 50	G	1/5 YR
107-13-1	Acrylonitrile	(5)	(6)	< 50	G	1/5 YR

FACILITY NAME: Roanoke Electric Steel Corp. D/B/A Steel Dynamics Roanoke Bar
ADDRESS: P O Box 13948
Roanoke, VA 24038-3948

Permit No. VA0001589
Attachment A
Page 5 of 6

DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY MONITORING

OUTFALL NO. 005

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL ⁽¹⁾	REPORTING RESULTS	SAMPLE TYPE ⁽²⁾	SAMPLE FREQUENCY ⁽³⁾
51-28-5	2,4-Dinitrophenol	(5)	(6)	< 10	G or C	1/5 YR
534-52-1	2-Methyl-4,6-Dinitrophenol	(5)	(6)	< 10	G or C	1/5 YR
87-86-5	Pentachlorophenol	625	50.0	< 10	G or C	1/5 YR
108-95-2	Phenol ⁽⁷⁾	625	10.0	< 10	G or C	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	< 10	G or C	1/5 YR
MISCELLANEOUS						
16887-00-6	Chlorides	(5)	(6)	122000	C	1/5 YR
57-12-5	Cyanide, Total	335.2	10.0	< 10	G	1/5 YR
7783-06-4	Hydrogen Sulfide	(5)	(6)	< 400	C	1/5 YR

J. CARY LESTER, DIRECTOR ENVIRONMENTAL AFFAIRS.

Name of Principal Exec. Officer or Authorized Agent/Title

 6/30/2010

Signature of Principal Officer or Authorized Agent/Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

Footnotes to Water Quality Monitoring Attachment A

- (1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained.

- (2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period. For composite metals samples, the individual sample aliquots shall either be filtered and preserved immediately upon collection, prior to compositing, or the composited sample shall be filtered and preserved immediately after compositing.

- (3) Frequency: 1/5 YR = once after the start of the third year from the permit's effective date.
- (4) A specific analytical method is not specified. An appropriate method shall be selected from the following list of EPA methods (or any approved method presented in 40 CFR Part 136). If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

<u>Metal</u>	<u>Analytical Method</u>
Antimony	204.1; 200.7; 204.2; 1639; 1638; 200.8
Arsenic	200.7; 200.9; 200.8; 1632
Cadmium	213.1; 200.7; 213.2; 200.9; 200.8; 1638; 1639; 1637; 1640
Chromium ^(a)	218.1; 200.7; 218.2; 218.3; 200.9; 1639; 200.8
Chromium VI	218.4; 1636
Copper	220.1; 200.7; 220.2; 200.9; 1638; 1640; 200.8
Lead	239.1; 200.7; 239.2; 200.9; 200.8; 1638; 1637; 1640
Mercury	200.7; 245.1; 200.8; 1631
Nickel	249.1; 200.7; 249.2; 1639; 200.9; 1638; 200.8; 1640
Selenium	200.7; 270.2; 200.8; 1638; 1639; 200.9
Silver	272.1; 200.7; 200.9; 272.2; 1638; 200.8
Zinc	289.1; 200.7; 1638; 1639; 200.8; 289.2

- (5) Any approved method presented in 40 CFR Part 136.
- (6) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.
- (7) Testing for phenol requires continuous extraction.
- (8) Analytical Methods: NBSR 85-3295 or DEQ's approved analysis for Tributyltin may also be used [See A Manual for the Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996].
- (9) Both Chromium III and Chromium VI may be measured by the total chromium analysis. If the result of the total chromium analysis is less than or equal to the lesser of the Chromium III or Chromium VI method QL, the results for both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].
- (10) The lab may use SW846 Method 8270C provided the lab has an Initial Demonstration of Capability, has passed a PT for Kepone, and meets the acceptance criteria for Kepone as given in Method 8270C.

Form
2F
NPDESUnited States Environmental Protection Agency
Washington, DC 20460**Application for Permit to Discharge Storm Water
Discharges Associated with Industrial Activity****Paperwork Reduction Act Notice**

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (list)	B. Latitude			C. Longitude			D. Receiving Water (name)
001	37	16	25	79	59	49	Peters Creek
002	37	16	20	79	59	53	Peters Creek
003	37	16	20	79	59	57	Peters Creek
006	37	16	48	79	59	82	Peters Creek
007	37	16	46	79	59	81	Peters Creek
008	37	16	46	79	59	79	Peters Creek

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
VPDES Permit, Special Conditions	001, 002, 003	Stormwater	Maintain Best Management Practice Plan	11/18/99	Ongoing
VPDES Permit, Special Conditions	001		Toxic Management Program, Conduct Annual acute toxicity	11/18/99	Ongoing
VPDES Permit, Special Conditions	001, 002, 003		Maintain Stormwater Pollution Prevention Plan	8/1/05	Ongoing

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structure control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each are not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility.

IV. Narrative Description of Pollutant Sources

- A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)
001	3.5 Acres	15.2 Acres			
002	8.7 Acres	15.3 Acres			
003	3.0 Acres	3.6 Acres			
004	Split into 007&008,	Incorporates new acreage			
006	3.0 Acres	3.9 Acres			
007	7.5 Acres	27.3 Acres			
008	0.1 Acres	1.05 Acres			

- B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.


The significant materials that are currently or have been stored in a manner to allow exposure to storm water are listed in attachment 1. The Stormwater Pollution Prevention Plan includes practices used to minimize contact with storm water and is incorporated by reference. Pesticides, herbicides, soil conditioners, and fertilizers are not used at this facility

- C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
001	EAF Dust Collection System, Street Sweeping, Covered Refractory Building, Visual Inspections	
002	Street Sweeping, Visual Inspections	
003	Street Sweeping, Visual Inspections	
006	Visual Inspection	
007	Water Quality Basin, Visual Inspections	1-U
008	Water Quality Basin, Visual Inspections	1-U

V. Non Stormwater Discharges

- A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name of Official Title (type or print)	Signature	Date Signed
J. Cary Lester, Director Environmental Affairs		6/30/2010

- B. provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

001 - Visual Observation 4/24/10
 002 - Visual Observation 4/24/10
 003- Visual Observation 4/24/10
 006- Visual Observation 4/24/10
 007- Visual Observation 4/24/10
 008 - Visual Observation 4/24/10

VI. Significant Leaks or Spills

- Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

There have been no significant leaks or spills of toxic or hazardous substances at the facility in the past three years

VII. Discharge Information

A, B, C, & D: See instruction before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E. Potential discharges not covered by analysis - is any toxic pollutant listed in table 2F-2, 2F-3, or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☒ Yes (list all such pollutants below)

☐ No (go to Section IX)

Iron
Manganese
Aluminum
Barium
Vanadium
Cobalt
Titanium
Molybdenum
Zirconium

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ Yes (list all such pollutants below)

☐ No (go to Section IX)

Outfall 001 – Acute 48 Hour Effluent Toxicity test for Ceriodaphnia dubia
12/3/09, 5/30/08, 7/26/07

IX. Contact analysis Information

Were any of the analysis reported in item VII performed by a contract laboratory or consulting firm?

☒ Yes (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

☐ No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
Prochem Analytical, Inc REIC	5111 Enterprise Blvd Elliston, VA 225 Industrial Park Drive Beaver, WV 25813	540.265.7211 304.255.2500	All parameters listed in Section VII

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title (type or print)

J, Cary Lester Jr, Director of Environmental Affairs

B. Area Code and Phone No.

540.342.1831

C. Signature

D. Date Signed

OUTFALL 001

VA0001589

VII-1. Discharge Information

(Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant And CAS Number (if available)	Maximum Values (ug/L)		Average Values (ug/L)		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil & Grease	ND (RL @ 5 ppm)	N/A	ND (RL @ 5 ppm)	N/A	1	N/A
Biological Oxygen Demand (BOD5)	2000	N/A	2000	N/A	1	N/A
Chemical Oxygen Demand (COD)	35,000	N/A	35	N/A	1	N/A
Total Suspended Solids (TSS)	53,000	N/A	53	N/A	1	Incidental Air Deposition
Total Organic Nitrogen	< 1000	N/A	< 1000	N/A	1	N/A
Total Phosphorus	240	N/A	240	N/A	1	N/A
pH	8.75	8.75	8.75	8.75	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

[illegible]

OUTFALL 001

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

[illegible]

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Total flow from rain event (gallons or specify units)
04/24/10	225	0.43	> 72 Hours	150,848

7. Provide a description of the method of flow measurement or estimate.

Rainfall		Area		Runoff	Gallons/	Flow
(In)	(Ft)	(Acre)	(SqFt)	Coefficient	CuFt.	(Gal.)
0.43	0.036	15.2	662,112	0.85	7.48	150,848

OUTFALL 002

EPA ID Number (copy from Item 1 of Form 1)

VA0001589

Form Approved. OMB No. 2040-0086

Approval expires 5-31-92

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant And CAS Number (if available)	Maximum Values (ug/L)		Average Values (ug/L)		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil & Grease	ND (RL @ 5 ppm)	N/A	ND (RL @ 5 ppm)	N/A	1	N/A
Biological Oxygen Demand (BOD5)	2000	N/A	2000	N/A	1	N/A
Chemical Oxygen Demand (COD)	32,000	N/A	32,000	N/A	1	N/A
Total Suspended Solids (TSS)	16,000	N/A	16,000	N/A	1	Incidental Air Deposition
Total Organic Nitrogen	2300	N/A	2300	N/A	1	N/A
Total Phosphorus	300	N/A	300	N/A	1	N/A
pH	7.64	7.64	7.64	7.64	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

[illegible]

OUTFALL 002

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

[illegible]

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Total flow from rain event (gallons or specify units)
04/24/10	225	0.43	> 72 Hours	151,840

7. Provide a description of the method of flow measurement or estimate.

Rainfall		Area		Runoff	Gallons/	Flow
(In)	(Ft)	(Acre)	(SqFt)	Coefficient	CuFt.	(Gal.)
0.43	0.036	15.3	666,468	0.85	7.48	151,840

VA0001589

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant And CAS Number (if available)	Maximum Values (ug/L)		Average Values (ug/L)		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil & Grease	ND (RL @ 5 ppm)	N/A	ND (RL @ 5 ppm)	N/A	1	N/A
Biological Oxygen Demand (BOD5)	5000	N/A	5000	N/A	1	N/A
Chemical Oxygen Demand (COD)	73,000	N/A	73,000	N/A	1	N/A
Total Suspended Solids (TSS)	14,000	N/A	14,000	N/A	1	Incidental Air Deposition
Total Organic Nitrogen	1780	N/A	1780	N/A	1	N/A
Total Phosphorus	270	N/A	2700	N/A	1	N/A
pH	8.44	8.44	8.44	8.44	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

[illegible]

OUTFALL 003

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

[illegible]

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Total flow from rain event (gallons or specify units)
04/24/10	225	0.43	> 72 Hours	35,727

7. Provide a description of the method of flow measurement or estimate.

Rainfall		Area		Runoff	Gallons/	Flow
(In)	(Ft)	(Acre)	(SqFt)	Coefficient	CuFt.	(Gal.)
0.43	0.036	3.6	156,816	0.85	7.48	35,727

VA0001589

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant And CAS Number (if available)	Maximum Values (ug/L)		Average Values (ug/L)		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil & Grease	ND (RL @ 5 ppm)	N/A	ND (RL @ 5 ppm)	N/A	1	N/A
Biological Oxygen Demand (BOD5)	ND (RL @ 2 ppm)	N/A	ND (RL @ 2 ppm)	N/A	1	N/A
Chemical Oxygen Demand (COD)	41,000	N/A	41,000	N/A	1	N/A
Total Suspended Solids (TSS)	27,000	N/A	27,000	N/A	1	Incidental Air Deposition
Total Organic Nitrogen	ND (RL @ 1 ppm)	N/A	ND (RL @ 1 ppm)	N/A	1	N/A
Total Phosphorus	320	N/A	320	N/A	1	N/A
pH	9.29	9.29	9.29	9.29	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

[illegible]

OUTFALL 006

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

[illegible]

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Total flow from rain event (gallons or specify units)
04/24/10	225	0.43	> 72 Hours	38,704

7. Provide a description of the method of flow measurement or estimate.

Rainfall		Area		Runoff	Gallons/	Flow
(In)	(Ft)	(Acre)	(SqFt)	Coefficient	CuFt.	(Gal.)
0.43	0.036	3.9	169,884	0.85	7.48	38,704

VA0001589

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant And CAS Number (if available)	Maximum Values (ug/L)		Average Values (ug/L)		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil & Grease	ND (RL @ 5 ppm)	N/A	ND (RL @ 5 ppm)	N/A	1	N/A
Biological Oxygen Demand (BOD5)	12,000	N/A	12,000	N/A	1	N/A
Chemical Oxygen Demand (COD)	21,000	N/A	21,000	N/A	1	N/A
Total Suspended Solids (TSS)	115,000	N/A	115,000	N/A	1	Incidental Air Deposition
Total Organic Nitrogen	ND (RL @ 1 ppm)	N/A	ND (RL @ 1 ppm)	N/A	1	N/A
Total Phosphorus	470	N/A	470	N/A	1	N/A
pH	9.86	9.86	9.86	9.86	1	

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

[illegible]

OUTFALL 007

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

[illegible]

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Total flow from rain event (gallons or specify units)
04/24/10	225	0.43	> 72 Hours	106,189

7. Provide a description of the method of flow measurement or estimate.

Rainfall		Area		Runoff	Gallons/	Flow
(In)	(Ft)	(Acre)	(SqFt)	Coefficient	CuFt.	(Gal.)
0.43	0.036	27.3	1,189,188	0.85	7.48	320,224

VA0001589

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant And CAS Number (if available)	Maximum Values (ug/L)		Average Values (ug/L)		Number Of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-weighted Composite		
Oil & Grease	No discharge from Outfall 008 due to stormwater quality basin					
Biological Oxygen Demand (BOD5)						
Chemical Oxygen Demand (COD)						
Total Suspended Solids (TSS)						
Total Organic Nitrogen						
Total Phosphorus						
pH						

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

[illegible]

OUTFALL 008

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

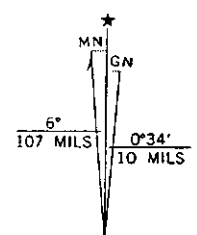
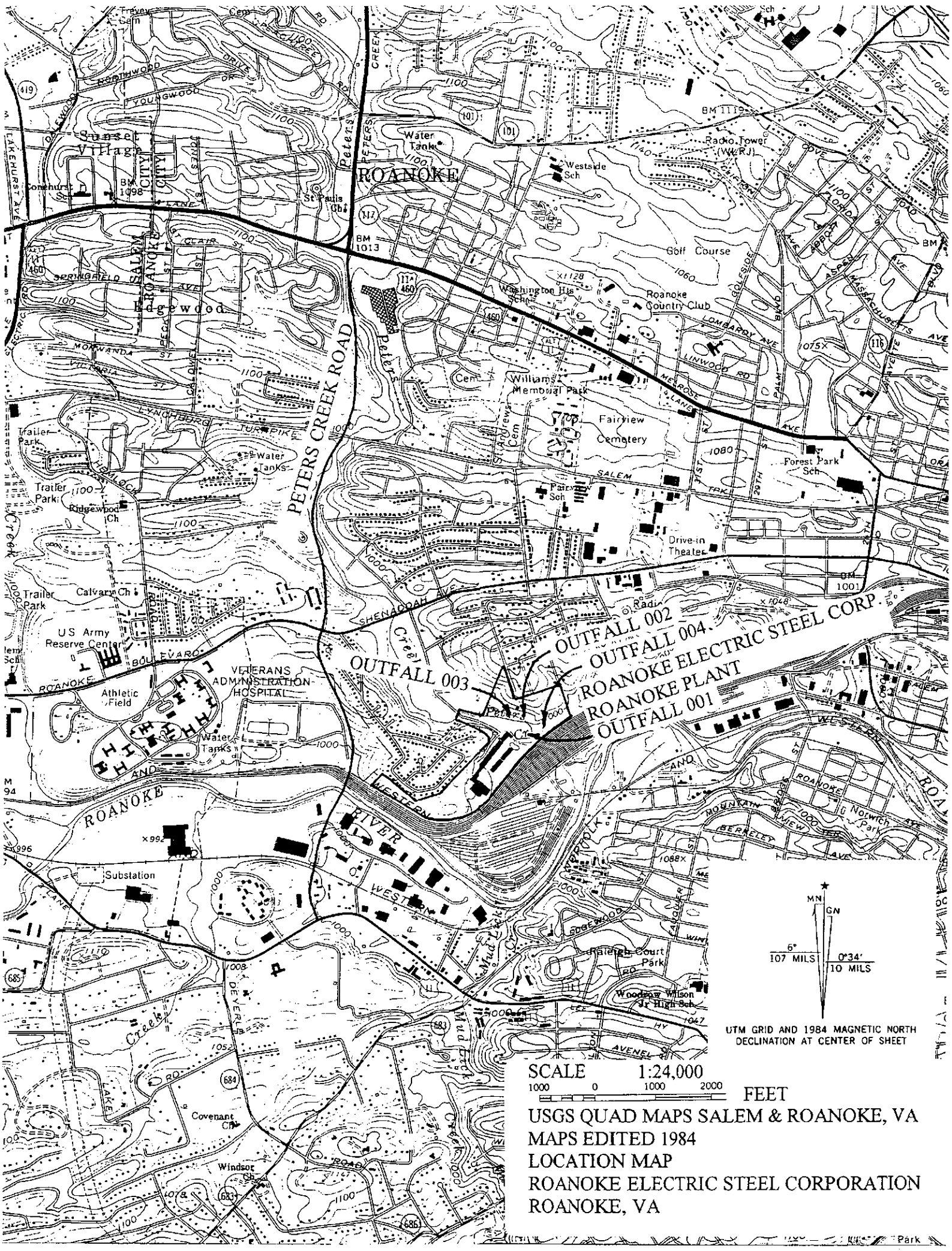
[illegible]

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Total flow from rain event (gallons or specify units)
04/24/10	225	0.43	> 72 Hours	10,420

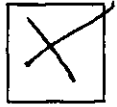
7. Provide a description of the method of flow measurement or estimate.

Rainfall		Area		Runoff	Gallons/	Flow
(In)	(Ft)	(Acre)	(SqFt)	Coefficient	CuFt.	(Gal.)
0.43	0.036	1.05	45.738	0.85	7.48	10.420

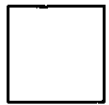


SCALE 1:24,000
1000 0 1000 2000 FEET
USGS QUAD MAPS SALEM & ROANOKE, VA
MAPS EDITED 1984
LOCATION MAP
ROANOKE ELECTRIC STEEL CORPORATION
ROANOKE, VA

Oversized document



See File



See rolled plans

For hard copy of

Roanoke Elec Steel

Stormwater P.P. Plan Site map

Dated:

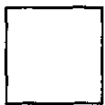
12-22-95

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See File



See rolled plans

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Drainage Areas + Proposed Outfalls

Steel Dynamics

Dated: 10-17-08 Rec'd 6-30-10

Oversized documents can not be scanned

MATERIAL INVENTORY

Worksheet #3

Completed by: Carrie Webster

Apex Environmental, Inc.

August 2005

Instructions: List all material used, stored, or produced on-site. Assess and evaluate these materials for their potential to contribute pollutants to storm water runoff. Also complete Worksheet 3A if the material has been exposed during the last three years.

Material	Purpose/ Location	Quantity (units)			Quantity Exposed in Last 3 Years	Likelihood of contact with storm water. If yes, describe reason.	Past Significant Spill or Leak	
		Used	Produced	Avg. Stored			Yes	No
Steel Billets	yard	varies	25K – 28K tons/month	25,000 tons	unknown	yes, uncovered outside storage - *		X
Steel Scrap	yard	varies	varies	35,000 tons	unknown	yes, uncovered outside storage - *		X
Wooden Pallets	yard	varies	N/A	50-150 pallets	unknown	yes, uncovered outside storage - *		X
Recyclable Graphite Electrodes		varies	N/A		unknown	yes, uncovered outside storage		X
Shipping Timbers		varies	N/A	500-600 timbers	unknown	yes, uncovered outside storage - *		X
Compressed Gas Cylinders		varies	N/A	14 cylinders	unknown	yes, uncovered outside storage - *		X
Steel Rolls	yard	varies	N/A	1300 rolls	unknown	yes, uncovered outside storage - *		X
Dumpsters (paper and wood)	various	N/A	N/A	9 dumpsters	unknown	yes, uncovered outside storage - *		X
Asbery Graphite		varies	N/A	25 pallets	unknown	yes, stored outside, uncovered, and wrapped in plastic		X
Antifreeze	Drum storage area	varies	N/A	2 drums (55-gallon)	none	yes, during material transfer – stored outside in sealed drums		X
Safety Kleen Parts Cleaning Solution	Drum storage area	varies	N/A	2 drums (55-gallon)	none	no, inside storage		X

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Material	Purpose/ Location	Quantity (units)			Quantity Exposed in Last 3 Years	Likelihood of contact with storm water. If yes, describe reason.	Past Significant Spill or Leak	
		Used	Produced	Avg. Stored			Yes	No
Machine Oil		varies	N/A	15 drums (55-gallon)	none	yes, during material transfer – stored outside in sealed drums		X
Diesel Fuel	ASTs	varies	N/A	2,550 gallons	unknown	yes, during material transfer - outside storage in ASTs with secondary containment		X
#2 Fuel Oil	ASTs	varies	N/A	17,500 gallons	none	yes, during material transfer – outside storage in ASTs with secondary containment		X
Waste Oil	ASTs	N/A	varies	2,000 gallons	none	yes, during material transfer – outside storage in ASTs with secondary containment		X
Gasoline	AST	varies	N/A	550 gallons	none	yes, during material transfer – outside storage in ASTs with secondary containment		X
Casting Oil	Totes	varies	N/A	3,000 gallons	none	yes, during material transfer – outside storage in sealed totes		X
Kerosene	AST	Varies	N/A	275 gallons	None	yes, during material transfer – outside storage in AST with secondary containment		
Calcium Silicon		varies	N/A	12 drums (55-gallon)	none	yes, outside storage – stored in sealed drums		X
Crushable Backfill		varies	N/A	1 pallet	none	yes, outside storage – stored in plastic wrapped containers		X

MATERIAL INVENTORY

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Material	Purpose/ Location	Quantity (units)			Quantity Exposed in Last 3 Years	Likelihood of contact with storm water. If yes, describe reason.	Past Significant Spill or Leak	
		Used	Produced	Avg. Stored			Yes	No
Super Bond		varies	N/A	2 pallets	none	yes, outside storage – stored in sealed metal containers		X
Reno Refractory Materials		varies	N/A	7 pallets	none	yes, outside storage – stored in plastic wrapped sealed pails		X
Ankorbond		varies	N/A	2 pallets	none	yes, outside storage – stored in sealed pails		X
Gunchase 430		varies	N/A	10 pallets	none	yes, outside storage – plastic wrapped		X
73 MVPP Universal Specialties		varies	N/A	6 pallets	none	yes, outside storage – plastic wrapped		X
Minteq M-Frit		varies	N/A	10 pallets	none	yes, outside storage – plastic wrapped		X
Anthracite		varies	N/A	20 pallets	none	yes, outside storage – plastic wrapped		X
Ankorbond Alumina Mortar		varies	N/A	7 pallets	none	yes, outside storage – plastic wrapped, sealed pails		X
Basilflux		varies	N/A	15 pallets	none	yes, outside storage – plastic wrapped		X
Flocon		varies	N/A	14 pallets	none	yes, outside storage – plastic wrapped		X
Continental Mineral		varies	N/A	5 pallets	none	yes, outside storage – plastic wrapped		X

MATERIAL INVENTORY

Worksheet #3

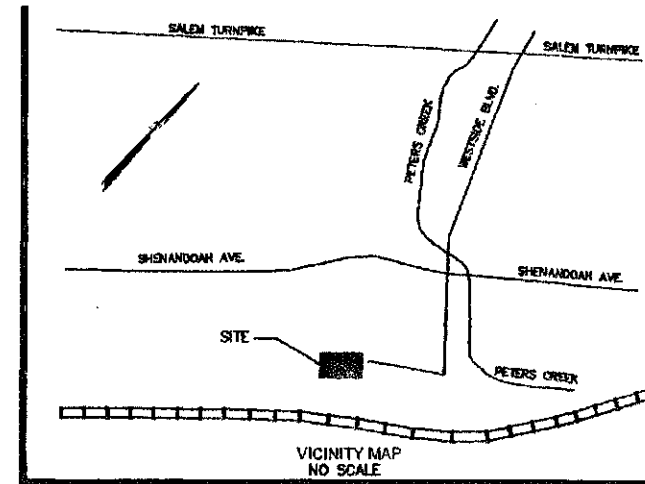
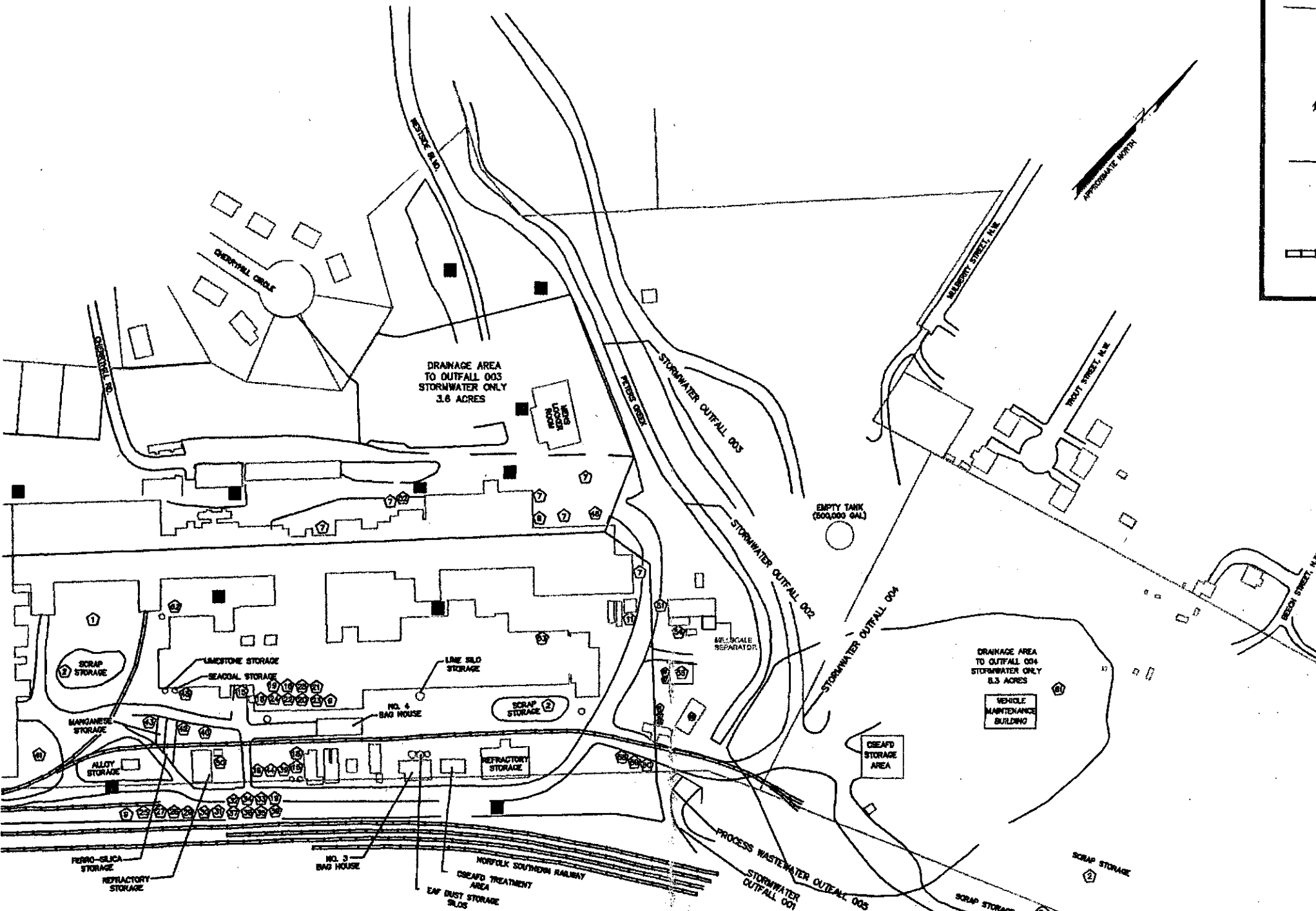
Completed by: Carrie Webster

Apex Environmental, Inc.

August 2005

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Material	Purpose/ Location	Quantity (units)			Quantity Exposed in Last 3 Years	Likelihood of contact with storm water. If yes, describe reason.	Past Significant Spill or Leak	
		Used	Produced	Avg. Stored			Yes	No
Baker Dola EFX		varies	N/A	10 pallets	none	yes, outside storage – plastic wrapped		X
SSK 90		varies	N/A	64 pallets	none	yes, outside storage – plastic wrapped		X
Ankerharth NH25		varies	N/A	14 pallets	none	yes, outside storage – plastic wrapped		X
Gunmag 4000		varies	N/A	5 pallets	none	yes, outside storage – plastic wrapped		X
Martin Marietta MarRun		varies	N/A	3 pallets	none	yes, outside storage – plastic wrapped		X
Refractory Bricks		varies	N/A	36 pallets	none	yes, outside storage		X
85% Plastic		varies	N/A	10 pallets	none	yes, outside storage – plastic wrapped		X
Martin Marietta 590		varies	N/A	24 pallets	none	yes, outside storage – plastic wrapped		X
Flourspar		varies	N/A	11 pallets	none	yes, outside storage – plastic wrapped		X
Ankorfrit NX- 93		varies	N/A	4 pallets	none	yes, outside storage – plastic wrapped		X
Torque Converter Fluid		varies	N/A	1 – 55 gal drum	none	yes, outside storage – sealed drum		X



MATERIAL DESCRIPTION

- 32. MARTIN MARIETTA MARRUN
- 33. RENO REFRACTORY BRICKS
- 34. REFRACTORY BRICKS
- 35. MARTIN MARIETTA 580



NOTE:
 A. STORAGE LOCATIONS ARE APPROXIMATE. DUE TO MANUFACTURING OPERATIONS, MATERIALS LOCATIONS MAY CHANGE.
 B. LOADING AND UNLOADING OF RAW MATERIALS ARE ACCOMPLISHED THROUGHOUT THE FACILITY.

VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued:** Steel Dynamics, Roanoke Bar Division
Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.
2. **Is this facility located within city or town boundaries?** Yes
3. **Provide the tax map parcel number for the land where the discharge is located.** 6021103, 2510103
4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** None
5. **What is the design average effluent flow of this facility?** 0.10 MGD
For industrial facilities, provide the max. 30-day average production level, include units:

In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? No

If "Yes", please identify the other flow tiers (in MGD) or production levels: _____

Please consider the following questions for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is your facility's design flow considerably greater than your current flow?

6. **Nature of operations generating wastewater:**
Industrial Contact and Non-contact Cooling Water

0.0% of flow from domestic connections/sources

Number of private residences to be served by the treatment works: _____

100% of flow from non-domestic connections/sources

7. **Mode of discharge:** ☒ Continuous ☐ Intermittent ☐ Seasonal

Describe frequency and duration of intermittent or seasonal discharges:

8. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point:**

☒ Permanent stream, never dry

☐ Intermittent stream, usually flowing, sometimes dry

☐ Ephemeral stream, wet-weather flow, often dry

☐ Effluent-dependent stream, usually or always dry without effluent flow

☐ Lake or pond at or below the discharge point

☐ Other: _____

9. **Approval Date(s):**

O & M Manual March 2001 Sludge/Solids Management Plan

Have there been any changes in your operations or procedures since the above approval dates? No

PUBLIC NOTICE BILLING INFORMATION FORM

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in accordance with 9 VAC 25-31-290.C.2:

Agent/Department to be billed: Accounts Payable Department
Att. Julia Smith

Owner: Steel Dynamics Roanoke Bar Division

Applicant's Address: 102 Westside Blvd
Roanoke, VA 24017

Billing: P.O. Box 13948
Roanoke, VA 24038-3948

Agent's Telephone No: 540.342.7332

Authorizing Agent:


Signature

James Cary Lester Jr.
Printed Name

Director, Environmental Affairs
Title

Facility Name: Roanoke Electric Steel Corp. d.b.a. Steel Dynamics Roanoke Bar Division
Permit No. VA0001589

Please return to:

Susan K. Edwards
Department of Environmental Quality
BRRO-Roanoke, 3019 Peters Creek Road
Roanoke, VA 24019
susan.edwards@deq.virginia.gov